

25. (NEW) The method of claim 24, wherein generating a digitized representation of the RF signal comprises sampling the RF signal to produce a stream of digital samples.

26. (NEW) The method of claim 24, wherein transmitting the digitized representation to the head end comprises transmitting the digitized representation over a path selected from the group consisting of a fiber optic cable and a coaxial cable.

27. (NEW) The method of claim 26, wherein the path is a single fiber optic cable or a single coaxial cable.

28. (NEW) The method of claim 26, wherein the fiber optic is part of a cable television system.

29. (NEW) A method of transceiving RF signals between a head end and at least one optical node, the method comprising:

generating a digitized representation of a first RF signal at the head end, wherein the first RF signal is a combined analog signal representing a plurality of transmissions for a set of channels;

transmitting the digitized representation to the optical node;

receiving a second RF signal at the at least one optical node;

generating a digitized representation of the second RF signal at the optical node,

wherein the second RF signal is a combined analog signal representing a plurality of transmissions for a set of channels; and

transmitting the digitized representation to the head end.

30. (NEW) The method of claim 29 wherein the optical node is coupled to a cable television system.

31. (NEW) The method of claim 29, wherein generating a digitized representation of the first and second RF signals comprises:

sampling the RF signal to produce a stream of digital samples.

32. (NEW) The method of claim 29, wherein transmitting the digitized representation of the first and second RF signals comprises transmitting the digitized representation over a path selected from the group consisting of a fiber optic cable and a coaxial cable.

33. (NEW) The method of claim 32, wherein the path is a single fiber optic cable or a single coaxial cable.

34. (NEW) A method of communicating an RF signal from an at least one optical node to a head end, the method comprising:

receiving an RF signal at an at least one optical node;

generating a digitized representation of the RF signal at the at least one optical node, wherein the RF signal is a combined analog signal representing a plurality of transmissions for a set of channels; and

transmitting the digitized representation to the head end.

35. (NEW) The method of claim 34, wherein generating a digitized representation of the RF signal comprises sampling the RF signal to produce a stream of digital samples.

36. (NEW) The method of claim 34, wherein transmitting the digitized representation to the head end comprises transmitting the digitized representation over a path selected from the group consisting of a fiber optic cable and a coaxial cable.

37. (NEW) The method of claim 36, wherein the path is a single fiber optic cable or a single coaxial cable.

38. (NEW) The method of claim 36, wherein the fiber optic is part of a cable television system.

39. (NEW) A communications system for transmission of an RF signal from an optical node to a head end, comprising:

an optical node coupled to a carrier medium, wherein the optical node digitizes a received RF signal and transmits the digitized RF signal on the carrier medium, where the RF signal is a combined analog signal representing a plurality of transmissions for a set of channels; and

a head end coupled to the carrier medium.

40. (NEW) The communications system of claim 39, wherein digitizing the RF signal comprises sampling the RF signal to produce a stream of digital samples.

41. (NEW) The communications system of claim 39, wherein transmitting the digitized RF signal on the carrier medium comprises transmitting the digitized representation over a carrier medium selected from the group consisting of a fiber optic cable and a coaxial cable.

42. (NEW) The communications system of claim 39, wherein the carrier medium is a single fiber optic cable or a single coaxial cable.

43. (NEW) The communications system of claim 39, wherein the fiber optic is part of a cable television system.

44. (NEW) A communications system for transceiving RF signals from an optical node to a head end, comprising:

at least one optical node coupled to a carrier medium, wherein the at least one optical node digitizes an first RF signal and transmits the digitized first RF signal on the carrier medium, where the first RF signal is a combined analog signal representing a plurality of transmissions for a set of channels; and

a head end coupled to the carrier medium, wherein the head end digitizes a second RF signal and transmits the digitized second RF signal on the carrier medium, where the second RF signal is a combined analog signal representing a plurality of transmissions for a set of channels.

45. (NEW) The communications system of claim 44, wherein digitizing the first and second RF signals comprises sampling the RF signal to produce a stream of digital samples.

46. (NEW) The communications system of claim 44, wherein transmitting the digitized first and second RF signals on the carrier medium comprises transmitting the digitized representation over a carrier medium selected from the group consisting of a fiber optic cable and a coaxial cable.

47. (NEW) The communications system of claim 44, wherein the carrier medium is a single fiber optic cable or a single coaxial cable.

48. (NEW) The communications system of claim 44, wherein the fiber optic is part of a cable television system.

49. (NEW) A method of transmitting an RF signal between an optical node and a head end, the method comprising:

generating a digitized representation of the RF signal at the optical node; and
transmitting the digitized representation to the head end.

50. (NEW) The method of claim 49, wherein generating a digitized representation of the RF signal comprises sampling the RF signal to produce a stream of digital samples.

51. (NEW) The method of claim 49, wherein transmitting the digitized representation to the head end comprises transmitting the digitized representation over a path selected from the group consisting of a fiber optic cable and a coaxial cable.

52. (NEW) The method of claim 51, wherein the path is a single fiber optic cable or a single coaxial cable.

53. (NEW) The method of claim 51, wherein the fiber optic is part of a cable television system.

54. (NEW) A communications system for transmission of an RF signal from an optical node to a head end, comprising:

an optical node coupled to a carrier medium, wherein the optical node digitizes a received RF signal and transmits the digitized RF signal on the carrier medium; and
a head end coupled to the carrier medium.

55. (NEW) The communications system of claim 54, wherein digitizing the RF signal comprises sampling the RF signal to produce a stream of digital samples.

56. (NEW) The communications system of claim 54, wherein transmitting the digitized RF signal on the carrier medium comprises transmitting the digitized representation over a carrier medium selected from the group consisting of a fiber optic cable and a coaxial cable.

57. (NEW) The communications system of claim 54, wherein the carrier medium is a single fiber optic cable or a single coaxial cable.

58. (NEW) The communications system of claim 54, wherein the fiber optic is part of a cable television system.